

Amendments To Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. (original) A drive apparatus for performing a sequential recording for a write-once recording medium, wherein
 - the write-once recording medium includes a data area and a disc management information area,
 - the data area includes a spare area and a user data area,
 - disc management information for managing the write-once recording medium is recorded in the disc management information area,
 - a plurality of physical addresses are assigned to the data area,
 - a plurality of logical addresses are assigned to the user data area,
 - at least one track is allocated in the user data area,
 - the disc management information includes track management information for managing the at least one track, and
 - the track management information includes a last recorded address indicating a location at which data is last recorded in a track,
 - the drive apparatus comprising:
 - a recording/reproduction section for performing a recording operation or a reproduction operation for the write-once recording medium; and
 - a drive control section for controlling the recording/reproduction section, wherein the drive control section performs a process including:
 - reading the disc management information from the disc management information area;
 - determining a primary logical address-physical address mapping indicating a corresponding relationship between the plurality of logical addresses and the plurality of physical addresses based on the disc management information;
 - receiving a recording instruction including a logical address indicating location at which data is to be recorded;
 - translating the logical address included in the recording instruction into a physical address in accordance with the primary logical address-physical address mapping;

determining a track of the at least one track based on the physical address corresponding to the logical address included in the recording instruction and the track management information;

determining a physical address indicating a location at which data can be recorded next in the determined track as a next writable address, based on the last recorded address in the determined track;

comparing the physical address corresponding to the logical address included in the recording instruction with the next writable address;

when the physical address corresponding to the logical address included in the recording instruction is smaller than the next writable address, performing a process including:

controlling the recording/reproduction section to record the data at a specific location in the user data area, the specific location being a location other than the location indicated by the physical address corresponding to the logical address included in the recording instruction;

generating new disc management information including replacement management information for mapping the physical address corresponding to the logical address included in the recording instruction to the physical address indicating the specific location and the last recorded address updated by recording of the data; and

controlling the recording/reproduction section to record the new disc management information in the disc management information area;

when the physical address corresponding to the logical address included in the recording instruction is equal to the next writable address, performing a process including:

controlling the recording/reproduction section to record the data at location indicated by the physical address corresponding to the logical address included in the recording instruction;

generating new disc management information including the last recorded address updated by recording of the data; and

controlling the recording/reproduction section to record the new disc management information in the disc management information area.

2. - 6. (cancelled)

7. (previously presented) A write-once recording medium comprising:

a data area and a disc management information area,

the data area includes a spare area and a user data area,

disc management information for managing the write-once recording medium is recorded in the disc management information area,

a plurality of physical addresses are assigned to the data area,

a plurality of logical addresses are assigned to the user data area,

at least one track is allocated in the user data area,

the disc management information includes track management information for managing the at least one track, and

the track management information includes a last recorded address indicating a location at which data is last recorded in a track,

wherein the write-once recording medium is recordable by a drive apparatus performing a process comprising the steps:

reading the disc management information from the disc management information area;

determining a primary logical address-physical address mapping indicating a corresponding relationship between the plurality of logical addresses and the plurality of physical addresses based on the disc management information;

receiving a recording instruction including a logical address indicating location at which data is to be recorded;

translating the logical address included in the recording instruction into a physical address in accordance with the primary logical address-physical address mapping;

determining a track of the at least one track based on the physical address corresponding to the logical address included in the recording instruction and the track management information;

determining a physical address indicating a location at which data can be recorded next in the determined track as a next writable address, based on the last recorded address in the determined track;

comparing the physical address corresponding to the logical address included in the recording instruction with the next writable address;

when the physical address corresponding to the logical address included in the recording instruction is smaller than the next writable address, performing a process including:

recording the data at a specific location in the user data area, the specific location being a location other than the location indicated by the physical address corresponding to the logical address included in the recording instruction;

generating new disc management information including replacement management information for mapping the physical address corresponding to the logical address included in the recording instruction to the physical address indicating the specific location and the last recorded address updated by recording of the data; and

recording the new disc management information in the disc management information area;

when the physical address corresponding to the logical address included in the recording instruction is equal to the next writable address, performing a process including:

recording the data at location indicated by the physical address corresponding to the logical address included in the recording instruction;

generating new disc management information including the last recorded address updated by recording of the data; and

recording the new disc management information in the disc management information area.

8. (previously presented) A method for reproducing the write-once recording medium according to claim 7, comprising at least one of:

a step of reproducing the disc management information from the disc management information area; and

a step of reproducing a user data from the spare area or the user data area based on the replacement management information.